

FIG. 17

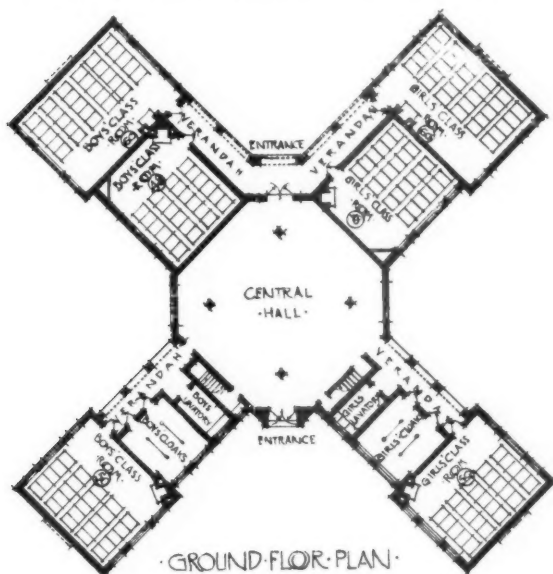


FIG. 18

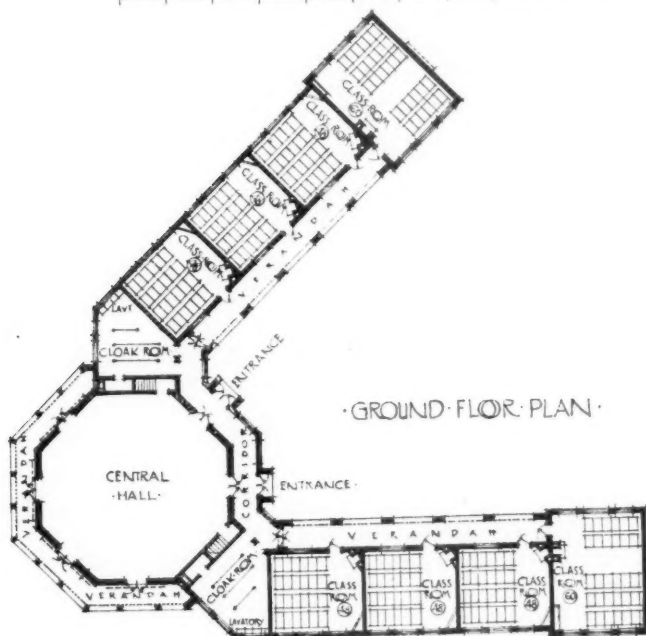


FIG. 19.

DERBYSHIRE ELEMENTARY SCHOOLS. Mr. George H. Widdows, Architect.

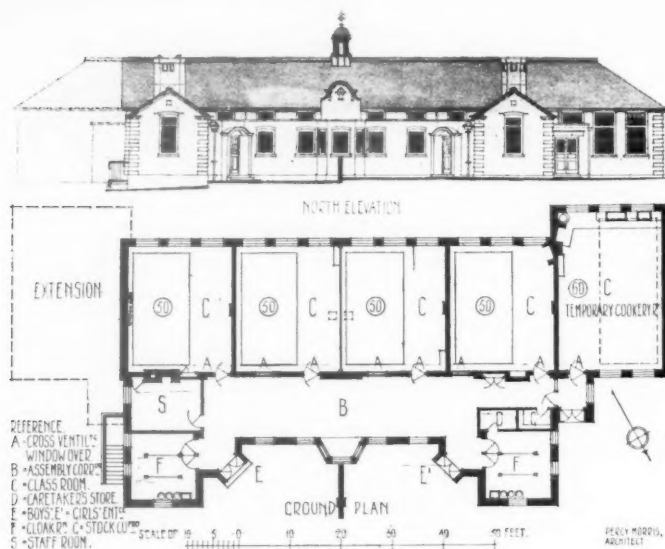


FIG. 20.—A ONE-STORY MIXED SCHOOL FOR 260 CHILDREN.

fore be utilised, and for cross ventilating purposes the ends of the basement story must be kept open. The classrooms have been put on the ground floor on both sides of a corridor, the ends of which are free. The staircase is a double one so as to keep it as clear as possible for children approaching in two directions; one would have preferred a staircase at each end of the corridor,

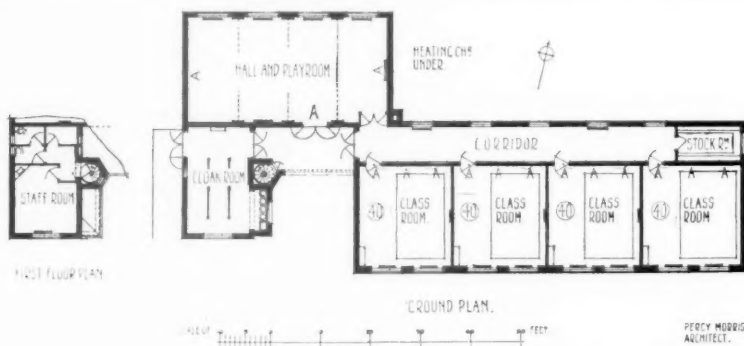


FIG. 21.—A ONE-STORY JUNIOR SCHOOL FOR 160 BOYS.

but they would obstruct ventilation as previously noted, and necessitate a dark and badly ventilated basement corridor. The central position has at least the advantage that the staircase windows provide an additional lung to the corridor. The hall and handcraft room have cross ventilation of a kind, and the former serves also as a playroom accessible from the playground. The cloakrooms are disconnected from the school, and placed near the entrances which will most frequently be used; their central position is determined by the staircases. The excavated material will be used for providing a level playground, and an embankment protected by a fence will be formed to save the expense of retaining walls.

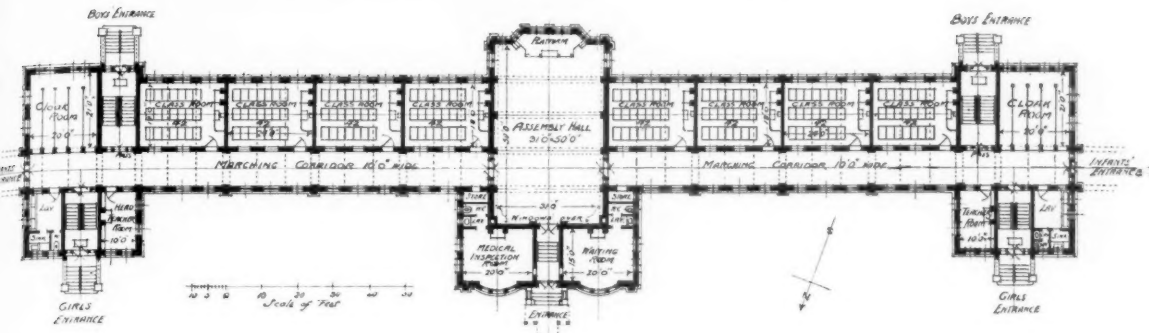


FIG. 22.—DURNSFORD SCHOOL, WIMBLETON: PLAN OF UPPER GROUND FLOOR.
W. H. Webb, Architect.

A three-story building with accommodation for 1,008 scholars in twenty-four classrooms of forty-two scholars each. The lower ground-floor contains: heating-chamber and coal stores, manual training-room, handicraft-room, douche baths for boys and girls, girls' work-room, stores, &c.; the boys' assembly-hall on second floor, arranged to be fitted as gymnasium, with small gallery at end.

Figs. 25 and 26 are examples of *Quadrangular Plans*, built for the Northumberland and Kent Education Authorities respectively, which again can only be used economically on fairly level sites. In very exposed situations they may, no doubt, be useful, but I am doubtful whether under some conditions in summer, particularly where the quadrangle is small, they will not be found to possess some of the disadvantages I mentioned in dealing with the ventilation of a room with windows high above the floor.*

Figs. 27 and 28 are types of *Village Schools*. Fig. 27 gives cross ventilation to the cloakroom and clerestory lights to the classrooms. Fig. 28 is designed for a very exposed site on Dartmoor between 1,300 and 1,400 feet above sea level, where the provision of shelter against the prevailing westerly winds needed special attention. The heating-chamber roof will be a flat one, reaching only to the corridor window sill, so as not to obstruct ventilation, and the playgrounds

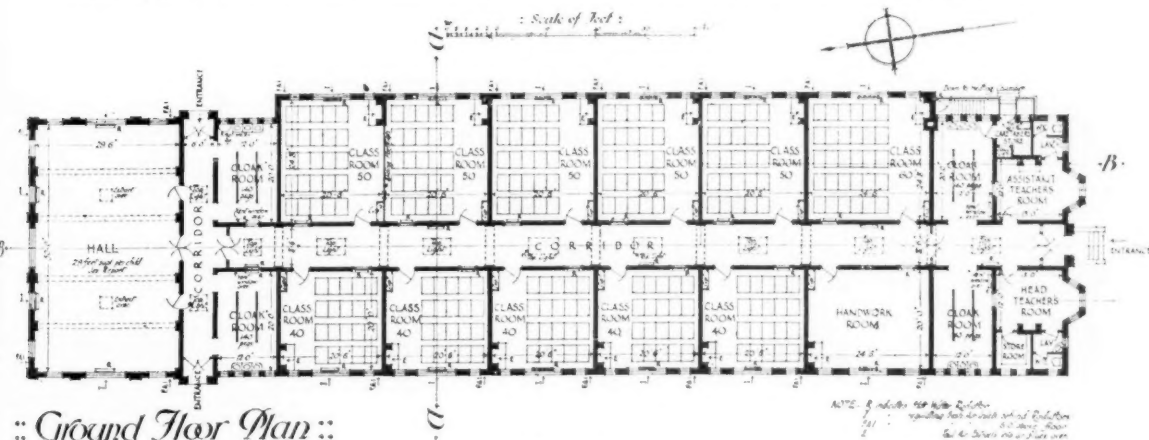


FIG. 23.

* See page 664.

will be enclosed by stone-ditched fences about 6 feet high, planted with gorse or some hardy shrub.

In what direction future developments of school planning will tend it is not easy to predict, but signs are not wanting to indicate that at any rate in provincial towns and country districts, where climate and atmosphere are favourable, *open-air* conditions will become increasingly sought after,

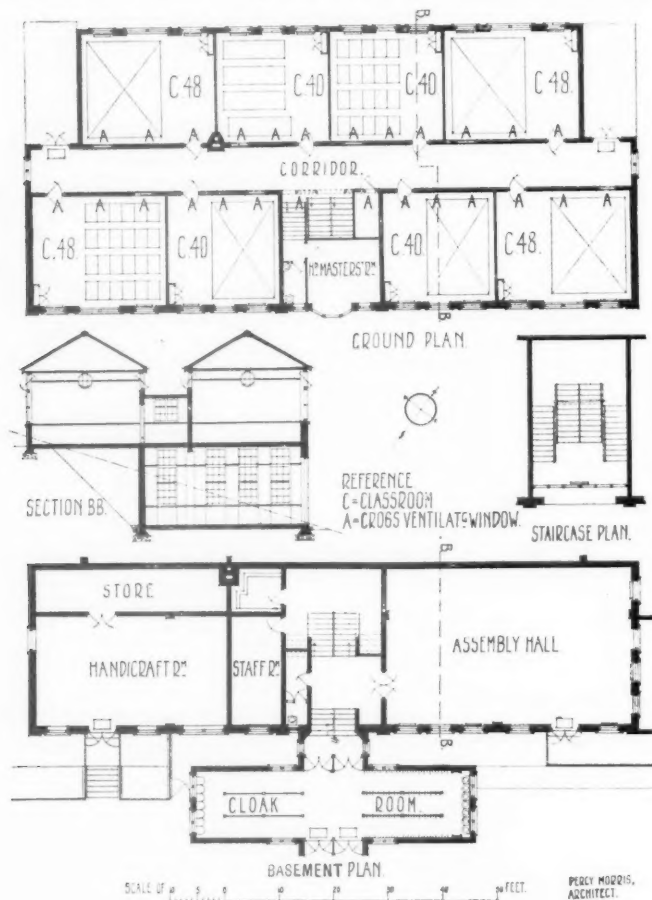


FIG. 24. —A TWO-STORY BUILDING FOR 352 BOYS.

and the possibility of throwing open the whole of one side at least of a classroom upon suitable occasions will have to be considered. Fig. 29* is a somewhat heroic suggestion by a Glasgow architect for open-air teaching, and several authorities in Wales and elsewhere are turning their attention to the same object. Apart from schools of this kind open-air schools such as have already been provided in several places will become general for delicate children and recovery cases. Fig. 30 shows the Thackley school. Buildings of this type will no doubt be used as centres for districts, giving children in crowded areas the opportunity of living for a time under healthier conditions. The subject is dealt with at some length in Sir George Newman's Annual Report, and should be

* See note at end of paper, p. 706.

kept in view. If it were possible to insure that children attended school adequately clothed, dry-shod, and properly fed, it would go far to revolutionise our present system of school planning. Under such conditions it would be possible to work in shelters of a temporary nature for probably nine months of the year.

Figs. 31-34 inclusive are examples of *Secondary Schools*. Fig. 31 is a Staffordshire example, fig. 32 a Derbyshire one, figs. 33 and 34 we have in hand in Devon. The former is designed for a long narrow site fronting a main road on the west side. It will be seen that the principles we have been discussing apply also to this type of school.

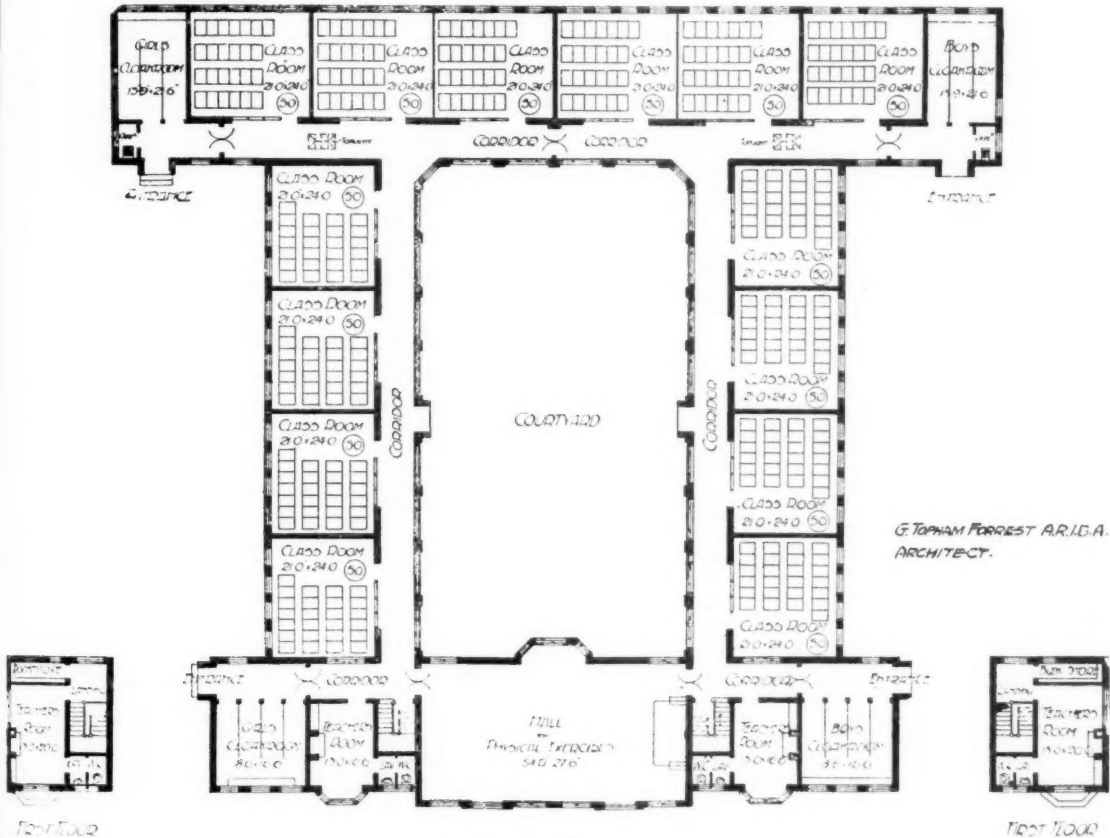


FIG. 25.

The alteration of existing buildings is a subject in itself, and time will not permit me to deal with it now, but fig. 35 shows a rather interesting addition we have recently made to a Secondary School which involved the amendment of the frontage line at A and G, the exchange of land at B for a right of way, and space for offices at C C', easements for rights of light and way respectively at E and F, the purchase of a cottage at D, also of a chapel and space for playgrounds in the rear of the school. The cost of the alterations, exclusive of furniture (except cupboards) and site, was £1,981, which included the lowering of the chapel floor 4 feet and underpinning its walls all round.

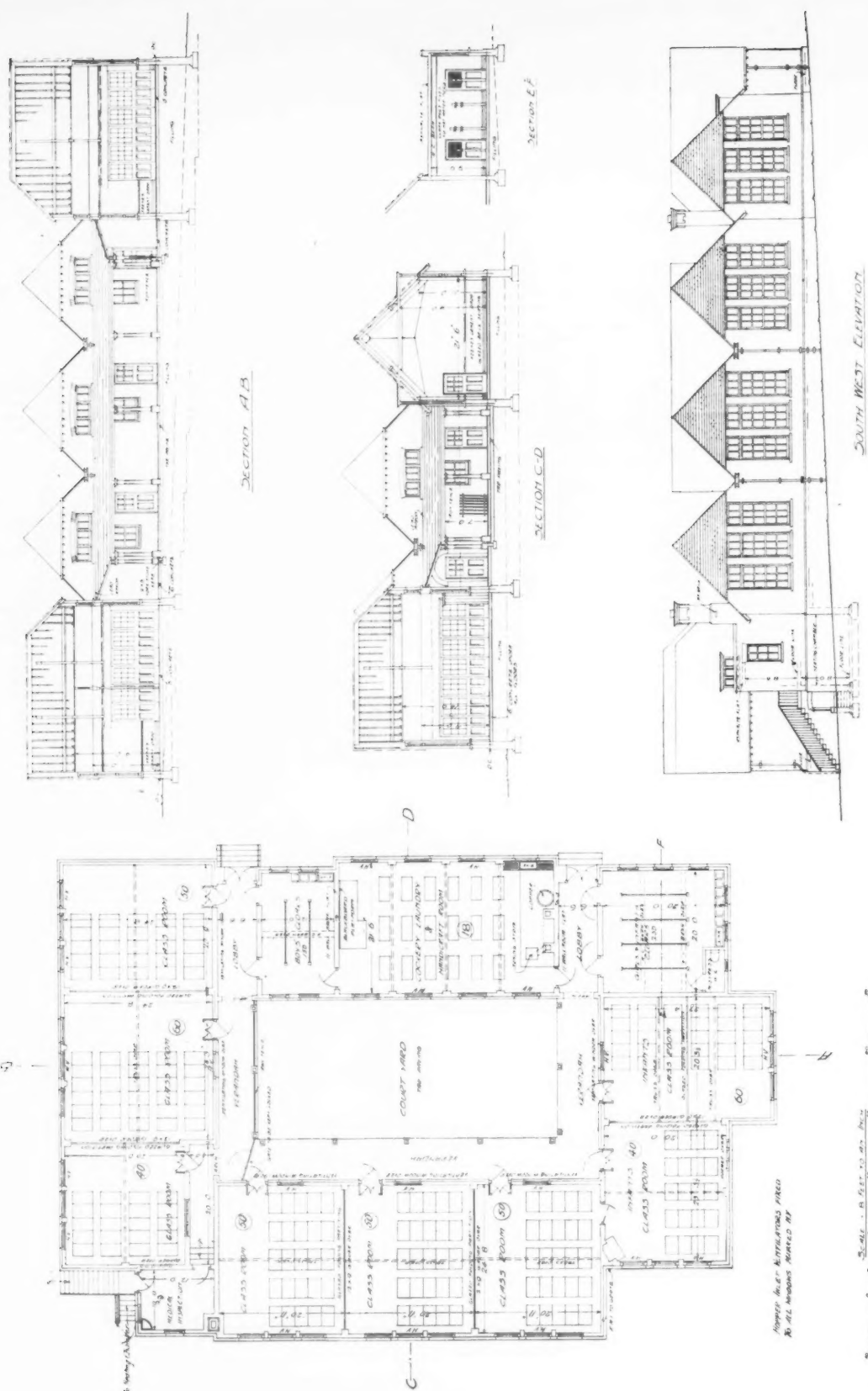


FIG. 26.—NEW SCHOOL AT LOOSE, NEAR MAIDSTONE, FOR 400 CHILDREN. (MR. W. H. ROBINSON, ARCHITECT.)

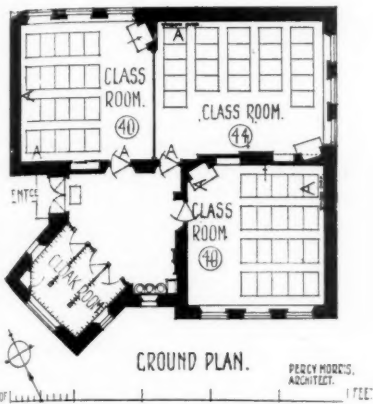


Fig. 27.—A ONE-STORY SCHOOL FOR 124 BOYS.

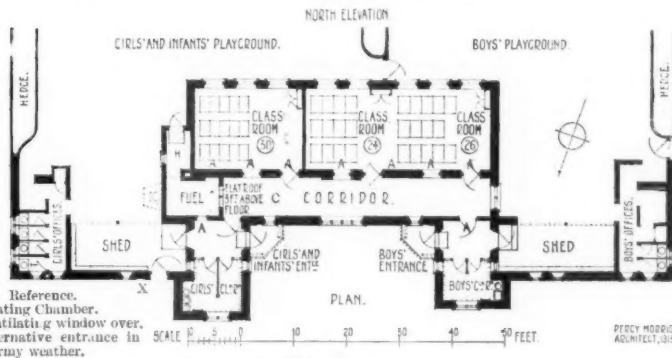


Fig. 28.

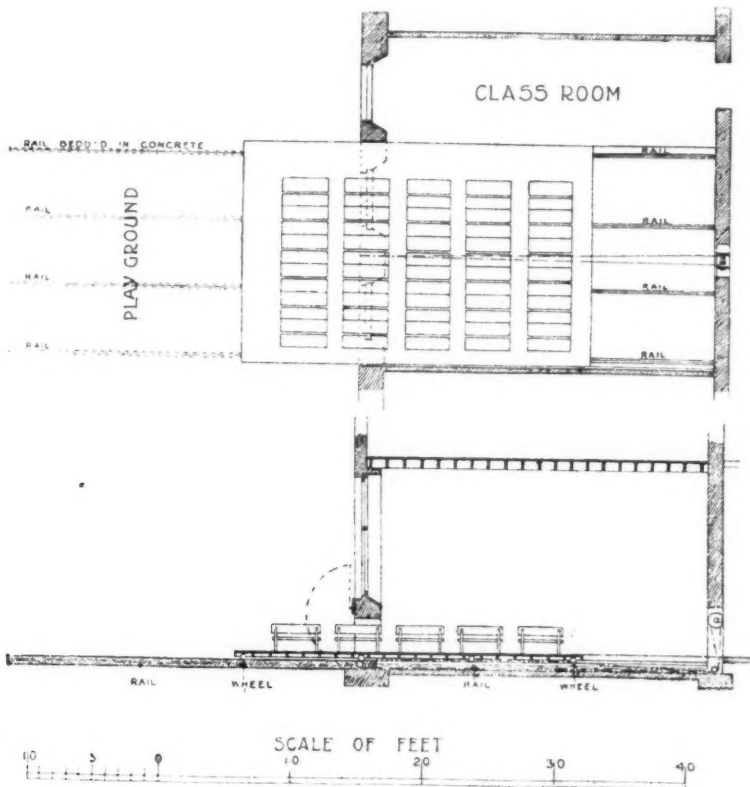


Fig. 29.



FIG. 30.—CITY OF BRAINFORD EDUCATION COMMITTEE, OPEN-AIR SCHOOL AT THACKLEY. (R. G. Kirkby, Architect.)

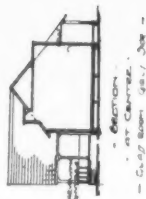
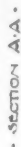


FIG. 31.—NEW SECONDARY SCHOOL FOR GIRLS, STAFFORD.
Mr. John Hutchings, Architect to the Staffordshire Education Committee.

FIG. 33.—MIXED SECONDARY SCHOOL FOR 208 SCHOLARS. (See elevation, fig. 33A, p. 703.)

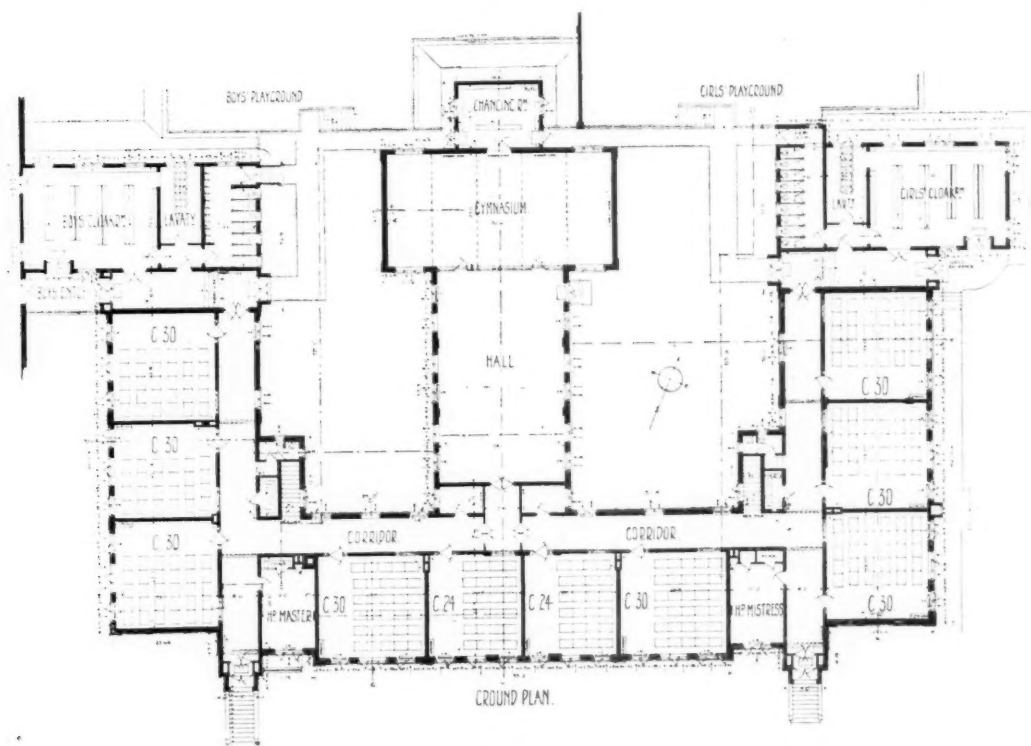
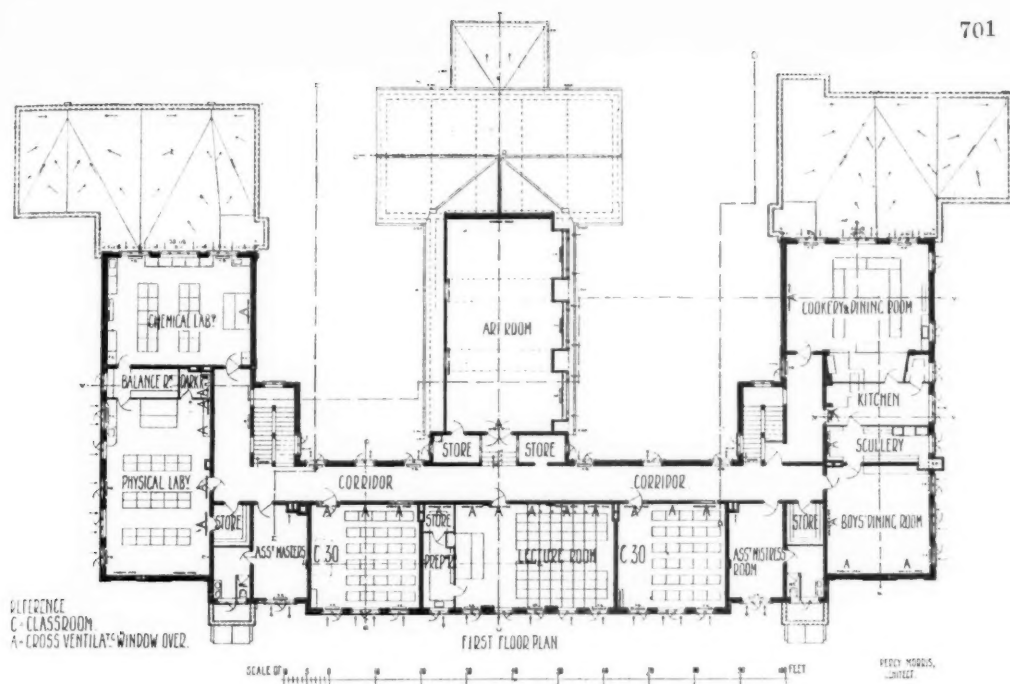


FIG. 34.—DUAL SECONDARY SCHOOL FOR 174 BOYS AND 174 GIRLS. (See elevation, fig. 34A, p. 703.)

FIG. 35.

REFERENCE
 OLD WORK
 NEW WORK
 A=CROSS VENT
 WINDOW OVER.

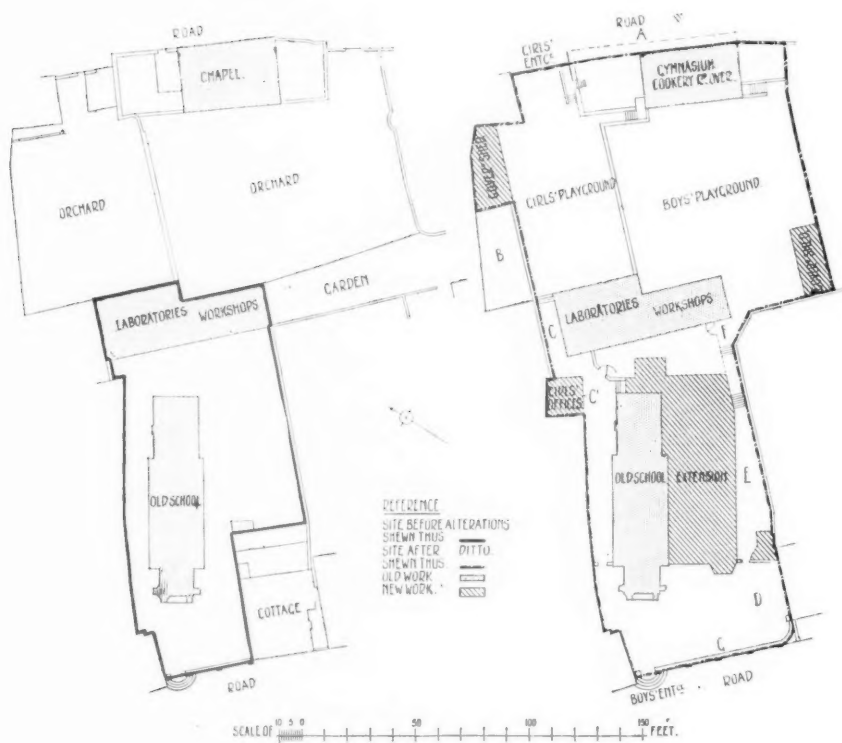
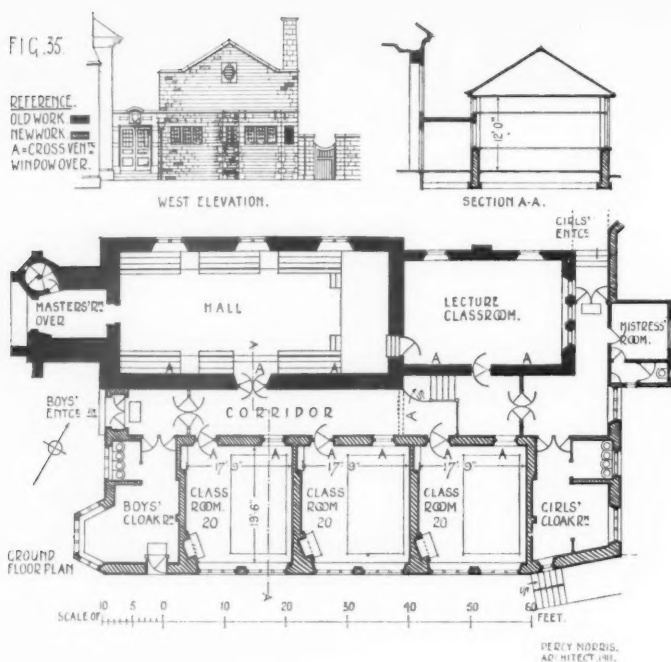


FIG. 35. (See p. 695.)

The schools I have illustrated serve to show that one is no longer tied to a particular type of building, but that we are free to find the solution of the problem best fitted to the needs of the case. The shape and levels of the site necessarily dictate the plan. Where land is cheap



WEST ELEVATION.

FIG. 33A. (See plans, p. 700.)

there is a distinct tendency to provide one-story buildings; these have great advantages, and do not add to the cost of building. As to aspect, south-east is most generally accepted as favourable for classrooms, and in Devon we always aim at placing them as nearly as possible facing this direction. Aspect is also a consideration which influences the Committee in the purchase of sites.



SOUTH ELEVATION.

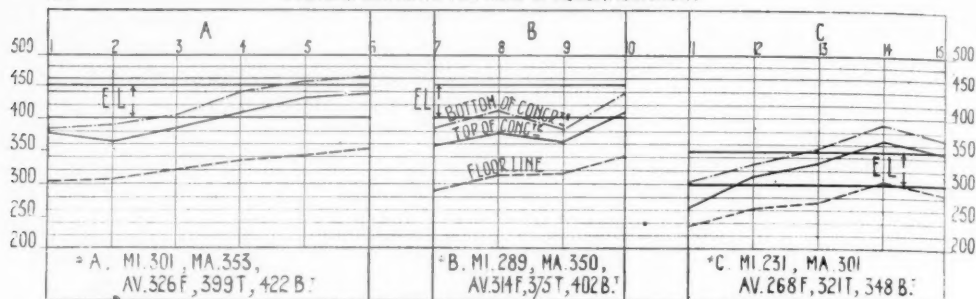
FIG. 34A. (See plans, p. 700.)

COST OF SCHOOL BUILDINGS.

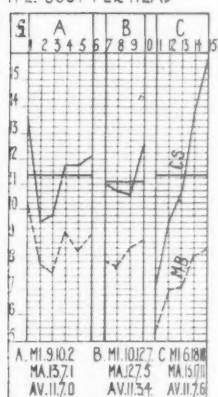
It is not my intention to discuss at any great length the cost of school buildings, and I can only deal with one aspect of it—the result rather than the method of achievement—but it is a subject which needs putting upon a more consistent footing. The cost per head is often quoted indiscriminately without reference to any fixed basis. Thus it is used to refer to the cost of the main building only, or to the cost of the completed school inclusive or exclusive of furniture, according to the motive in view; and one often hears figures of this kind used most unscrupulously. Again, the cost per cubic foot may have reference to the contents of the building to the floor line or to the top or bottom of the concrete foundation. If we wish to have figures

No. 1.

CUBICAL CONTENTS PER HEAD OF ACCOMMODATION.



No. 2. COST PER HEAD



REFERENCE.

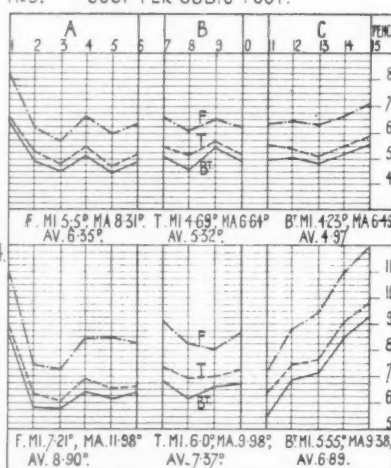
A=ASSEMBLY HALLS.

B= " CORRIDORS.

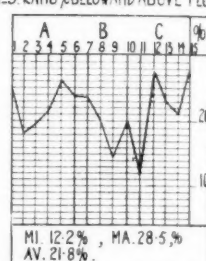
C=VILLAGE SCHOOLS. F=FLOOR LINE. T=TOP OF CONCRETE. B'=BOTTOM OF CONCRETE. MI=MINIMUM. MA=MAXIMUM.

AV=AVERAGE. C=COOKERY ROOM. H=HANDICRAFT ROOM. EL=ECONOMICAL LIMITS. CS=COMPLETED SCHOOLS. MB=MAIN BUILDING.

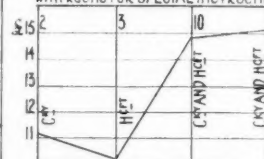
No. 3. COST PER CUBIC FOOT.



No. 5. RATIO % BELOW AND ABOVE FLOOR



No. 6. COST PER HEAD OF COMPLETED SCHOOLS WITH ROOMS FOR SPECIAL INSTRUCTION.



* Minima and maxima in respect to floor line.

GENERAL CONSTRUCTION.

WALLS, brick or local stone.

ROOFS, boarded, felted, and slated.

FLOORS, reinforced concrete asphalted.

PLAYGROUNDS, A and B, tar paved; village schools, gravelled.

PLAYGROUNDS, A and B, tar paved; village schools, gravelled.

HEATING, A and B, low pressure, hot water; village schools, open warm-air grates (No. 15, hot water).

BOUNDARY FENCES, unclimbable iron fencing.

DIVISION WALLS, brick or stone.

NOTES.

1, 4, 5, 7, 8, 10, 12, 14, and 15. One story mixed and infants' schools.

2 and 11. One-story infants' schools.

3, 6, and 13. One-story boys' schools.

9. Two-story boys' and girls' school.

1. Reinforced concrete foundations.

10. $\frac{3}{4}$ acre enclosed by stone walls, cost of drainage very heavy.

13, 14, and 15. Include also cost of wells.

15. Retaining walls and exceptional approach.

at our disposal for purposes of comparison, or to meet charges of extravagance, it is of the greatest service to keep the cost of each building in tabulated form and dissected. When one is dealing with hilly sites it is useful to work out the ratio of the cubical contents below the floor line and above it, because it enables us to estimate by a comparison of different schools what proportion of the expenditure may rightly be deemed due to special circumstances.

In the report of the Departmental Committee on the cost of school buildings it was laid down that it is possible to design elementary schools, including halls, at a rate of 400 to 450 cubic feet per head of accommodation, although it is said the amount frequently runs up to 500 or 600 feet. Similarly a school without a hall will contain from 300 to 350 cubic feet per head; and it is stated that the difference in the cubical contents of a building per head probably affords the best check of economical planning. It is not quite clear in the report whether the contents are measured to the floor line or to some other point,* but obviously if it is to afford a reliable standard of comparison the floor line must be used. Take, for example, two identical buildings placed upon sites which require a depth of foundation of 3 feet and 10 feet respectively. If cubed to the bottom of the concrete foundation, one might fall within the economical limit and the other exceed it, but on this account it would be absurd to argue that one was economically planned and the other extravagant. All it could prove would be that one of the sites might not be an economical one to build upon. In using this check it is necessary to keep separate the contents of rooms for special instruction.

Diagram No. 1 shows graphically the application of the rule to fifteen Devon Elementary Schools. The figures are to some extent being modified now that smaller classrooms and isolated halls are becoming general, although several of the schools included in the chart have classrooms for forty children only. The bottom line shows the cubical contents of the buildings measured to the floor line, and it will be seen that it falls throughout its length below the lower limit of economy, except in one instance where it exceeds it by one foot only. The averages of all three lines show a good margin in favour of economy. Diagram No. 2 gives details of the cost per head of accommodation of the completed schools including all cupboards but exclusive of other furnishing; also the cost of the main building only. Diagram No. 3, starting with the bottom line, shows the cost per cubic foot of the main building measured to the bottom and top of the concrete foundation and floor line respectively. Diagram No. 4, the cost per cubic foot when the cost of the completed building exclusive of site and furnishing is divided by the cubical contents of the main building. Diagram No. 5, the percentage of the ratio of the cubical contents of the main building below and above the floor line. Diagram No. 6, the cost per head of schools with rooms for special instruction.

Now take Diagram No. 3, the average of the whole gives a fair idea of the cost per cubic foot, viz.:—6.35*d.*, 5.32*d.*, and 4.97*d.* measured respectively to floor line, top and bottom of the concrete. This compares with 4.5*d.* to 5.0*d.* quoted in the Departmental Committee's report as the average cost per cubic foot where bricks are cheap and sites favourable, but the report does not say to what point the measurements are taken.* I generally adopt the bottom of the concrete, and shall now refer to that only.

The fluctuation of the cost per cubic foot between the minimum and maximum, 2.26*d.*, does not convey a correct impression, but if you omit two schools which were particularly exceptional in regard to site you obtain for the remaining thirteen .94*d.* as the result,† a figure which is more reliable for estimating. In Diagram No. 4, because our sites vary so much as to levels, proximity to railway stations and facilities of drainage and water supply, you find, as one would expect, great fluctuation, viz.:—3.83*d.*, and an average of 6.89*d.* per cubic foot; representing 1.92*d.* per cubic foot‡ for all external work, other than the main building, reckoned in regard to the cubical contents of the main building. This is high compared with the figure, 1*d.*, quoted in the report referred to (*here again we have no information as to the point of measurement), and

* I have since ascertained that the measurements were taken to a point about 2 feet below the floor line.

† Only two of the schools included in the charts were tendered for since the recent rise in the cost of building,

which in Devon amounts to between 20 and 25 per cent.

‡ The corrected figures in view of footnote* on this page are 3.98*d.*, 7.37*d.* and 2.05*d.* respectively.

proves that because of the nature of our sites we are at a disadvantage; the Devon figure representing an average ratio of 27.8 % of the cost of the completed school as against 17.3 %. If you refer to Chart 5 you find the explanation in that the ratio of foundation to the cubical contents above floor line is high, which means that the sites are usually hilly. No. 11 represents a level site, No. 9 a two-story building.

The effect of the foregoing figures is seen in Chart 2, the average cost per head of accommodation working out at £11 5s. 11d., as against an average of £10 to £11 quoted in the report for schools built under the most favourable conditions, so that in spite of our handicap we cannot be taxed with extravagance. Of the fifteen schools four are under £10, and eight under £11 per head.

No useful figures can be derived from Chart 6, since a special instruction centre for a school of 250 and 750 probably would not vary in size, but would affect the cost disproportionately.

I will take one more example and trace the history of an individual school. No. 1 in Diagram No. 2 shows a school costing £13 17s. 1d. per head; trace it to Diagram No. 1 and you will find the cubical contents per head nearly 100 feet below the lower limit of economy; what then brings the cost so much above the average? Diagrams No. 3 and 5 show that the cost per cubic foot and ratio of foundations were heavy. The explanation is a sharply sloping site and the necessity of reinforced foundations.

This brings my paper to a close; the objection is sometimes raised that we are treating schools as mere sanatoria and neglecting the claims of architecture. As I understand it the primary object is to produce a building fitted for its purpose, and if this points to a sanatorium, the sooner we recognise the fact the better. If tradition teaches us anything, surely it is that all good architecture has sprung from the needs of a building as expressed in its plan, and all healthy development has followed the same course. It rests with us, therefore, to reconcile the one with the other. It is, I admit, a subject for regret that many Education Authorities recognise the one, and ignore or relegate to a very subordinate position the other, but in doing so they are unfortunately giving effect to public opinion. Time may bring about a change; it will be a gradual one, but meanwhile, if we have not the means at our disposal, I submit that until internal fitness is secured, no consideration of external expression must be allowed to trespass. There is all the more need, therefore, to exercise restraint, and even if we have to clothe our buildings in garb as sombre as a Quaker's, it is better than to sacrifice efficiency by stooping to some pitiful expedient which will bring discredit upon the profession we follow.

N.B.—The writer desires to thank those who have kindly given him permission to reproduce illustrations. He regrets that he is unable to trace the authorship of Figs. 23 and 29, but takes this opportunity of acknowledging his indebtedness.

Erratum.

Page 659, line 4: Insert the word "said," so as to read: "In regard to No. 5 there is said to be an increasing tendency," &c.

APPENDIX A.

.....COUNTY EDUCATION AUTHORITY.

.....SCHOOL.

TENDER FOR HEATING.

I (We) hereby tender to instal a HEATING APPARATUS in accordance with the accompanying PLAN, and in accordance with the SPECIFICATION AND FORM OF GUARANTEE prepared by for the sum of (£ : :), subject only to a cash discount of $2\frac{1}{2}$ per cent. to the General Contractor.

I (We) have made provisions as follows :—

1. TOTAL RADIATION including all concealed pipes, mains, risers, flow and return pipes.....square feet.
2. TOTAL EFFECTIVE RADIATION.....square feet. (a) Pipes,.....square feet. (b) Radiators..... square feet.
3. BOILER CAPACITY, direct radiation..... square feet.
4. Total cubical contents ... Classrooms. Corridor and Hall. Cloakrooms. Staff Rooms.
.....cubic feet cubic feet cubic feet cubic feet
5. Average heating surface
per 1,000 cubic feet square feet square feet square feet square feet
Maximum ditto square feet square feet square feet square feet
Minimum ditto square feet square feet square feet square feet
6. Clear area of each F.A.I. behind ventilating radiators.....square inches.
7. Length of floor channels required.....feet by.....inches wide, by.....inches deep. Stoneware pipes..... feet.....inches diameter.
8. Number of radiators provided. (a) Ventilating..... (b) Ordinary..... Total.....
9. Number of main circuits from Boiler..... Number of control valves to mains.....
10. Price per foot super of effective heating surface

I (We) hereby agree on my (our) TENDER for the said works being accepted to sign the said PLAN, SPECIFICATION AND FORM OF GUARANTEE.

Name.....

Address.....

Date.....191.....

To the

..... EDUCATION AUTHORITY.

REVIEWS.

GARDEN MAKING.

The Art and Craft of Garden Making. By Thomas H. Mawson, Hon.A.R.I.B.A., Lecturer on Landscape Design at the University of Liverpool. Fourth Edition. Fö. Lond. 1913. 50s. net. [B. T. Batsford, 94 High Holborn.]

It is only thirteen years since the first edition of this handsome book appeared, and the author is to be congratulated on the demand for the fourth edition of his work within that time, an indication, surely, of the rapid growth within recent years of enlightened views on garden design. A new edition of a well-known book is often passed over as being mainly a reprint of what has been perused before. This edition, however, marks a more definite step in advance than any of the previous issues. It has assumed a folio size in place of the quarto of former editions, and makes a stately volume, companion to the author's recently issued *Civic Art*. It has been in great part rewritten, and every section of it much enlarged, with almost a hundred pages more than the last edition, so that it is practically a new book. Nor does one altogether grudge the older editions on one's library shelves, for they show the evolution of many interesting garden designs from the sketches in the early editions to photographs of the work as carried out in this the latest edition.

The volume opens with an admirable sketch of the history of garden craft in this country, from the gardens of Norman and Tudor times down to those of the Renaissance. It briefly narrates the destruction of many of these last, under the influence of the "landscape" school of the eighteenth century, and brings the reader down to the modern revival in garden design. From this one is carried naturally in Chapter II. to consider the aim and position of the art of garden making in the present day.

The third chapter, on the choice of site and its treatment, is of the greatest value to the architect, indeed to all who have before them the building or occupying of a house in the country, for in the city the choice of a site is generally "Hobson's choice." All the various points which demand attention are reviewed, and sound advice is given on the most important question of where the house should be placed on the site chosen. Emphasis is well placed on the necessity for preserving the characteristics and individuality of the site in whatever treatment it may undergo to make it a fit environment for the house. The relations to each other of the various parts and features of a house and its grounds are then broadly but sufficiently indicated, and the various points are well illustrated by a number of typical plans and sections.

The chapters which follow take up the essential parts of the garden and grounds in fuller detail. Entrances and carriage courts have naturally the first place. The gateway strikes the first note, and

it should be in harmony with that to which it leads. This is well exemplified by a number of excellent designs of houses and gardens of various sizes. The most common fault is to have the entrance too pretentious for the dwelling to which it is the portal.

The design of gates and fences for the garden and park, and the æsthetic possibilities of these, have been often overlooked, the proprietor handing them over to the tender mercies of the iron merchant, when at no more, and possibly less, expense he might have had a more enduring and more beautiful enclosure. The varieties of material at our disposal and their treatment are abundantly illustrated.

The subject of drives and avenues is then dealt with in a chapter which goes fully into the practical and artistic considerations involved in the design of the principal access to the house. Long drives which meander round an estate for no other purpose than to exploit its size are rightly condemned, and the simple dignity of the direct approach is well illustrated. The greater part of this chapter is entirely new, little of its matter appearing in even the third edition. The advent of the motor car has considerably affected the design of drives and approaches.

In dealing with terraces and terrace gardens, few will nowadays dispute the author's view that the whole garden scheme gains if the house stands slightly elevated above the general level, on a sufficiently spacious plateau. There is no doubt that the house becomes thereby airier and healthier, and that its appearance is enhanced by a slight elevation, while from its windows better views are had of the garden and surrounding country.

Flower gardens, beds and borders, occupy a delightful chapter on these essentials to every garden, large or small, and the finishing touch to every composition. Simplicity in the shape of flower beds is urged, and many examples are given of the planning of herbaceous borders and other features of the flower garden. As every gem should have its foil, so the flower garden demands the lawn. Every house should have somewhere a lawn, a broad expanse of greensward, for the lack of which nothing else can atone. The repose and quiet dignity which should be apparent in the gardens of every house must not be destroyed by the scattering of shrubs or fancy-shaped beds of flowers over the lawn, which has a beauty all its own. It should be framed with masses of foliage, and its surroundings may glow with colour, but its green restfulness should be unbroken. How to lay out and form lawns, glades, and garden walks is fully gone into.

Two chapters are devoted to what may be called the architectural adornments of the garden, which fulfil important functions, both practical and æsthetic. The author rightly insists that these should be carefully designed with reference to the whole scheme, each fitting naturally and inevitably into its proper place, and not dotted about without

reference to their surroundings. Gardens otherwise well designed are often spoiled by incongruous and vulgar accessories. There is no doubt but

thus can harmony be obtained and that unity of house and garden result which should be the aim of all concerned. A wealth of beautifully designed



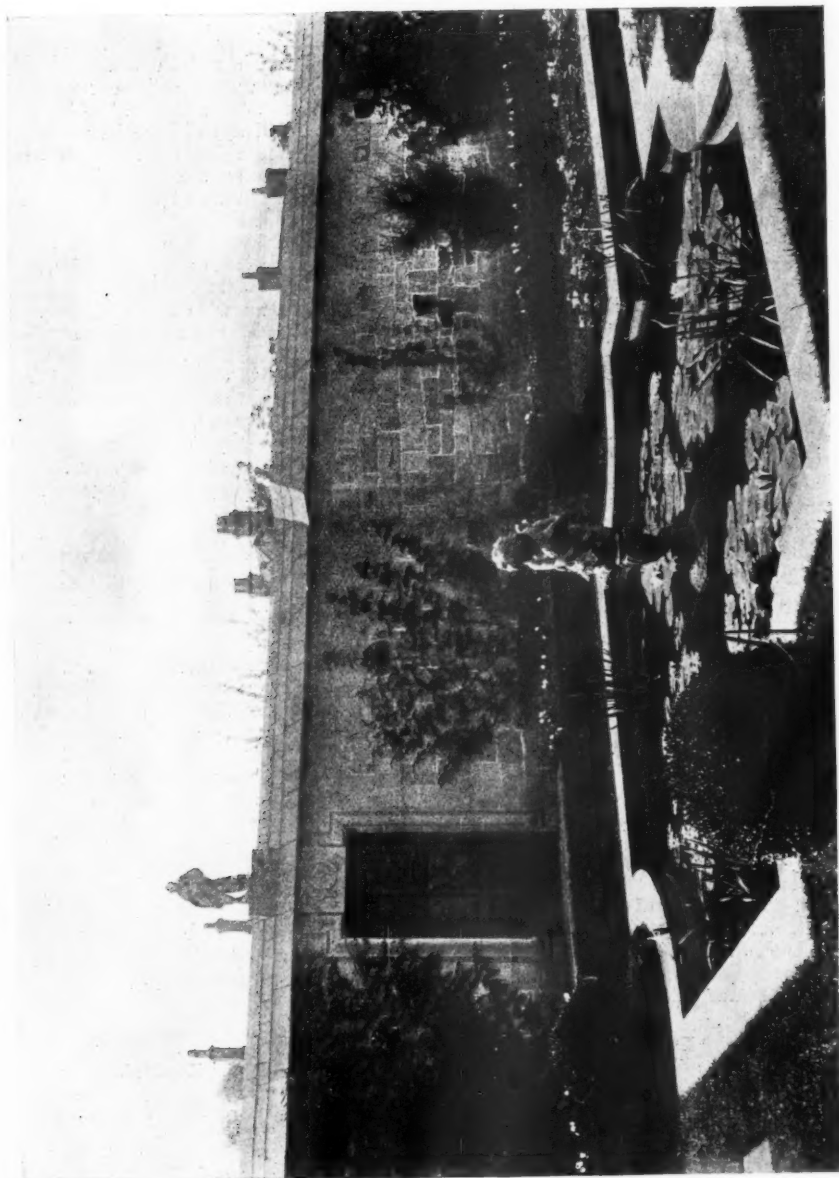
THE SUMMER-HOUSE, WOOD HALL, COCKERMOUTH.

that the architect of the house should have in his hands the designing of all these, so that the feeling of the house should extend into the garden. Only

garden-houses, pergolas, verandahs, rose arches, seats, and other furniture of the garden is given, while the use of sculpture is also dealt with, and



CLIMBERS AT WOOD, DEVONSHIRE. LOOKING TOWARDS THE HOUSE.



WATER LILY POND AT ASHTON-ON-TRENT.

those reminiscences of bygone days which seem now at home only in a garden—sundials, “the horloge of the first world.”

The ideal garden is incomplete without the presence of water, in one or other of its forms—Nature’s mirror in the still pool, the murmur of the brook, or the rush of the fountain. All these are charmingly discussed and illustrated in a chapter on “The Decorative Treatment of Water.” The author remarks how seldom one comes across a wall fountain in the average garden, which is all the more surprising in view of the many models for these which may be seen at Burlington House and elsewhere.

Following this chapter is one on rock, wall, and bog gardens, which is almost entirely new. The design of conservatories, greenhouses, vineries, and fruit-houses is gone into in full detail, and amply illustrated. Kitchen gardens and orchards also claim attention, and the way in which these may add to the beauty as well as the usefulness of the garden is well brought out.

The remaining chapters deal with the cultural aspects of the garden and park, treating of the formal arrangement of trees and planting for landscape effect, with notes on trees and shrubs, climbers for walls, pergolas and trellis, and hardy perennials.

Concluding the work, there is a series of examples of garden design, fifteen in all, illustrated by plans, sections, and photographs. These range from small houses to large country seats, and there are some interesting illustrations of gardens of exceptional kinds—for the Highlands and for the Lake district; for an entirely flat site; for a classic mansion, and for an old Tudor house.

It is a pleasure to recommend this as pre-eminently the book on garden design for the architect. It is not, like so many garden books, a rhapsody of fine words. It is an essentially practical book, sane, clear, and well arranged; full of useful information, the garner of many years’ experience, and the fruit of enthusiastic study. Architects may congratulate themselves that this store is at their disposal. The design of the garden, what Vinet calls “the exterior house,” calls them away for a time from the prosaic and commercial to the fresh air, to “the breath of flowers,” where Nature and Art meet, not in conflict, but in harmony and peace.

Only one word need be said about the book itself, its *format*, paper, printing, illustrations—it is a Batsford book, and there is nothing more to say.
Aberdeen. J. A. O. ALLAN.

JOHN THORPE IN CHELSEA.

L.C.C. Survey of London. Vol. IV. The Parish of Chelsea (Part II.). By Walter H. Godfrey. 40. Lond. 1913. [London County Council, Spring Gardens.]

This is a valuable volume, by Mr. Walter H. Godfrey, devoted to a very interesting district, full

of information, and accompanied by 104 plates agreeably reproduced from measured drawings, engravings, and photographs contributed by numerous enthusiastic helpers. There are also reproductions in the text, notably the plans and a rough sketch of Sir John Danvers’ house, the originals of which are in the Soane Museum, “preserved among the collection of the Elizabethan architect, John Thorpe.” Almost entirely on supposed evidence of the plans in this collection, John Thorpe has been accounted an architect representing the transitional period of English architecture, and it is hardly surprising that there are fanciful portraits in sculpture on the Albert Memorial and the Victoria and Albert Museum. There is no positive evidence that he designed any of the numerous buildings attributed to him covering a wide range of date. If it is taken for granted that he was old enough to have been architect of Kirby, of which he has left on record that he laid the first stone in 1570—three years before the birth of Inigo Jones—he must have been advanced in years, and yet, apparently, full of energy in 1623, when the house was built in Chelsea for Sir John Danvers, and Jones had already built the Banqueting House in Whitehall, for we learn from Mr. Godfrey “it seems certain that he was in Chelsea about 1623, when Danvers House was built (the plans of which were also made and perhaps designed by him), and it appears that he took the opportunity of measuring Beaufort House.” In all probability he was then residing in St. Martin’s-in-the-Fields, and it would have been fairly easy to visit the neighbourhood of Chelsea. In view of the character of the drawings, and without independent confirmation of modern attribution to Thorpe of one single mansion of so many delineated in his collection, it is difficult to arrive at a conclusion that he made the design in this instance of Danvers House, and most probably the house was simply measured for record—which the notes on the plans would bear out—just in the same way as Beaufort House. Very soundly Mr. Godfrey holds that “Thorpe was not necessarily the designer of all the plans in his collection; he seems to have measured up houses as he came across them, and sometimes he failed to give all the particulars with accuracy.”

HARRY SIRR [F.]

Books Received.

Portland Cement: Its Manufacture, Testing, and Use. By D. B. Butler. 80. Lond. 1913. Price 16s. net. [E. & F. N. Spon Ltd., 57 Haymarket.]

Building Supervision. By George W. Grey, Licentiate R.I.B.A., F.A.S.I. Sm. 80. Lond. 1913. Price 2s. 6d. net. [E. & F. N. Spon, Ltd., 57 Haymarket.]

Drainage and Sanitation: A Practical Exposition of the Conditions Vital to Healthy Buildings, their Surroundings and Construction, their Ventilation, Heating, Lighting, Water and Waste Services. By E. H. Blake. Demy 80. Lond. 1913. Price 10s. net. [B. T. Batsford, 94 High Holborn.]



9 CONDUIT STREET, LONDON, W., 27th September 1913.

CHRONICLE.

Programme of Sessional Meetings, &c., 1913-14.

- Nov. 3. President's Opening Address.
- Nov. 17. The New Wesleyan Hall: Paper by Mr. H. V. Lanchester [F.].
- Dec. 1. Business Meeting.
- Dec. 15. The Repair of Ancient Buildings: Paper by Mr. W. A. Forsyth [F.].
- Jan. 12. Business Meeting.
- Jan. 26. London Traffic Problems: Paper by Colonel Sir Herbert Jekyll, K.C.M.G. Announcement of award of Prizes and Studentships.
- Jan. 27.-Feb. 9. Exhibition of R.I.B.A. Prize Competition Drawings.
- Feb. 9. President's Address to Students: Presentation of Prizes and Studentships.
- Feb. 23. London Railway Stations: Paper by Mr. Paul Waterhouse [F.].
- Mar. 9. Business Meeting: Election of Royal Gold Medallist.
- Mar. 23. On Borrowing in Architecture: Paper by Mr. L. March Philipps.
- Apr. 6. Professional Practice and Conduct: Paper by the Practice Standing Committee.
- Apr. 20. London's Bygone Building Acts and the Development of London: Paper by Mr. W. R. Davidge [A.].
- May. 4. Eightieth Annual General Meeting.
- May. 18. The London Society and its Aims: Paper by Mr. T. Raffles Davison [Hon. A.].
- June 8. Business Meeting.
- June 22. Presentation of the Royal Gold Medal.

The Construction of Belfries: Effect of Vibration on Buildings.

The Science Committee of the Royal Institute have under consideration the subjects of:

- (1) The construction of belfries.
- (2) The effect of vibration on buildings.

In view of the increasing use of heavy road traffic and machinery, and their injurious effect on buildings, the Committee are desirous of collecting useful data and information, with a view to the issue of a guiding memorandum on the subject. Members and Licentiates of the Royal Institute are invited to forward any particulars or statistics—

- (a) As to the measured swing of brick, stone, and timber belfries, tall chimneys, or similar erections.

- (b) As to the amount and extent of vibration in buildings.

- (c) As to any precautions taken to deaden or minimise the effect of such vibrations or oscillations.

Particulars, drawings, or statistics would be greatly appreciated, and should be forwarded as early as possible to the Hon. Secretary, R.I.B.A. Science Committee, 9 Conduit Street, London, W.

New Public Offices—Board of Trade, &c.

The Commissioners of his Majesty's Works and Public Buildings propose to erect new Offices for the Board of Trade, &c., in Whitehall Gardens, S.W. There will be two competitions—the first, open to all British subjects, to consist of sketch designs; and the second or final competition. The Commissioners have appointed as Assessors the President of the Institute, Mr. Reginald Blomfield, A.R.A., and two Past Presidents, Sir Aston Webb, C.B., C.V.O., R.A., and Mr. John Belcher, R.A., who will select ten designs, or a less number if they think fit, the authors of which will be invited to compete in the final competition. The authors of the designs selected in the first competition will be invited to enter the final competition. In the final competition, for which four months will be allowed, the selected competitors will be required to send in plans, elevations, sections, &c., of a more complete and detailed character. They will be at liberty to make such reasonable modifications of the sketch designs as they may think expedient. Each selected competitor will be paid the sum of £300 provided he comply with all the conditions prescribed for the final competition. Subject to the approval of Parliament, it is intended that the architect selected in the final competition shall carry out the work, unless he is prevented by ill-health, or some other cause which might be reasonably considered to render him ineligible for the employment. Designs must be delivered to Mr. Coward at the Imperial College of Science and Technology, South Kensington, on the 29th December, or on one of the three days next following, between the hours of 8 a.m. and 4 p.m. Each design is to be accompanied by a descriptive report of the general scheme, materials, warming, ventilation, and lighting, together with an estimate of the cost of the design accompanied by the entire dimensions on which it is based. The building will be erected in two portions at such times and intervals as Parliament may determine. The Commissioners are advised that a building suitable to their requirements should be obtained at a cost not exceeding £280,000 for the first portion, and £290,000 for the second portion.

The object of the first competition being to obtain a good general scheme, only so much as is necessary to illustrate it need be given on the plans and in the report, as it is desired so far as

possible to save labour at this stage. The selected architect will be required, if requested, to revise his design and make such further drawings and sketches as may be necessary to meet the Commissioners' requirements. If no instructions are given to the architect to proceed with the building within twelve months from the date of the award, the architect will receive payment of £5,000, which will be inclusive of the £300 payable to him as a selected competitor. If the work is subsequently proceeded with, such amount will form part of his ultimate remuneration. The remuneration of the architect will be at the rate of 5 per cent. on his estimate of the cost of each part of the building, and payment will be made as follows:—£1,000 on appointment as architect; £3,000 on acceptance of tender for superstructure; £3,000 when half the contract sum for the superstructure has been paid to the builder; £3,000 on certificate of completion being given; balance on final certificate being given. A further payment of £1,000 to be made on account of the fees for the second part. In the event of the architect being instructed to proceed with the second part a similar payment of fees will be made, but the payment of £1,000 is to be taken as the payment on appointment. When the design has been approved by the Commissioners the architect is to proceed with the working drawings, details, and specifications, and his employment will be subject to a tender being obtained from an approved builder for the erection of the building (first portion) for a sum which, together with the estimated cost of all other services necessary for the completion of the structure, shall not exceed the above-mentioned sum by more than 10 per cent. The plans, drawings, specifications, and other documents relating to the works are to be the property of the Commissioners and be deposited at the Office of Works, and the architect must at his own expense make all tracings and copies of plans, drawings, and other documents which may be necessary for the conduct of the works. The Commissioners will appoint a surveyor to prepare the quantities, and the architect may also nominate, if he should so desire, a second surveyor to co-operate in the preparation of the quantities. The Commissioners will also appoint a clerk of works.

A copy of the instructions and conditions relating to the competition, together with plan of site and the form of agreement to be entered into by the selected architect, may be consulted in the R.I.B.A. Library.

Proposed New Government Buildings, Ottawa.

Designs are invited in a preliminary competition for the erection of Departmental and Courts Buildings. From the designs submitted in this preliminary competition six will be chosen by the assessors, and the authors will be invited to submit more mature designs in a final competition, for which the five unsuccessful competitors will each

receive an honorarium of 3,000 dols. The author of the design placed first by the assessors will be entrusted with the work, which the Government intends carrying out at once. The competition is limited to British subjects practising in the British Empire. The Government has appointed Mr. T. E. Collett, Mr. J. H. G. Russell, and Mr. J. O. Marchand as assessors to act in its behalf. The designs in the first competition must be delivered in Ottawa (carriage paid) not later than 12 noon on 2nd January, addressed to Mr. R. C. Desrochers, Secretary, Department of Public Works, Ottawa. Conditions for both competitions may be had on application to the Secretary, and at the office of the High Commissioner for Canada, 17 Victoria Street, S.W.

Intimation has been received from the Office of the High Commissioner that the Department of Public Works at Ottawa has extended the date for receiving inquiries from competitors to 30th October.

The Development of Shop Architecture.

In an interesting article under the above heading in *The Times* of the 24th inst. credit is given, and justly given, not only to the architect, but to the shopkeeper and his customers as well, for the marked improvement which has taken place in shop architecture in London and other of our cities in recent years. The increasing number of highly educated men and women who are taking up posts as heads of commercial enterprises; the demand of the public that its shopping shall be done in pleasant conditions; the growth of knowledge and experience amongst architects in the treatment of commercial architecture; the spirit of reasonableness which, on the whole, has manifested itself throughout the discussion on the rebuilding of Regent Street Quadrant—all these, observes the writer, are so many grounds for hoping that the reckless disregard for beauty which marked shop architecture in the nineteenth century will give way to a recognition of the fact that a shop need not be ugly in order to be commercially attractive. Whiteley's new premises, Selfridge's, Warings', Debenhams and Freebody's, among the large "stores," are all cited as highly successful solutions of the problem how to handle the large plate-glass window. Coming to the smaller shops, the article says:—

Fortunately the architect can in many cases reckon upon the sympathy of the best class of tradesman. It has now come to be realised that the better goods are in quality the more important it is that they should be shown in an artistic setting, and, further, that such goods are shown at an actual disadvantage if they are crowded too much together. The two hundred yards or so of Old Bond Street between Piccadilly and Old Burlington Gardens contain four examples of first-rate shop architecture beyond which it is not necessary to go. The first example is the tobacconist's shop of Messrs. Sandorides, with its four exquisitely moulded arches and the rich ironwork which fills the upper part of these arches. Such a design, of course, cuts off a good deal of light, but it has to be remembered that in such

a shop an uninterrupted light is not a primary consideration. The second example is the shop of Messrs. Duveen. The elegance and richness of the French woodwork which forms its frame are exquisite, and though the windows are often bare of any goods whatever, the handsome panelling leaves one almost indifferent as to whether any priceless *objets d'art* are being shown or not. The shop of Messrs. Crichton next door is the third illustration. This shop is really a masterpiece on the part of the late Mr. Flockhart. On the ground floor the design is almost identical with that of Messrs. Duveen's shop, and the treatment of the first floor, while differing in detail, resembles its neighbour in general effect. In the two stories above the design is entirely different. The result is at once charming and dignified, and is an admirable illustration of how an architect, without sacrificing individuality, can make his design suitable to its surroundings. The last example is the perfume shop of Messrs. Atkinson. The deliberately massive appearance which has been given to the building by its stone casing and the comparatively small size of its mullioned windows suggest somehow an idea of cool fragrance which is thoroughly appropriate. In each of these, and in many other examples which could be given, the predominant characteristic is a certain rich refinement, which blends so quietly with the general surroundings that its full beauty is not always recognised at a first glance, but, when once apprehended, is more and more appreciated.

Architectural Courses at the Westminster Technical Institute.

The Westminster Technical Institute was established in 1890 by the Baroness Burdett-Coutts, and was presented by her to the London County Council in 1900 in order that the Council might continue the educational work then being carried on in the Institute. The Westminster School of Art, established in the Royal Architectural Museum, was transferred to the Westminster Technical Institute in 1903, and now forms an integral part of the Institute. A new building, containing well-equipped studios, lecture and classrooms, drawing offices and workshops, was opened in 1908 as an addition to the old building, to provide greatly increased and improved accommodation for the various art and technical classes.

Architectural group courses of instruction have been arranged at the Institute to enable students engaged in the offices of architects, surveyors, &c., to follow out a systematic course of study extending over several years, under the direction of lecturers and leaders who have had wide practical experience in their profession. The courses may be varied, with the approval of the Principal, to meet the needs of individual students. Homework is set each week, and arrangements are made during the session to visit buildings in course of erection, museums, and other places of architectural interest. Students preparing for the R.I.B.A. Final Examination specialise in Design or in Construction, and take higher classes in Design or in Structural Engineering respectively. Courses are provided in Quantities, in Valuation, and in Building Laws. The course of Architectural Drawing and Design is under the direction of Mr. Matthew J. Dawson [A.]; History of Architec-

ture, Mr. W. T. Benslyn [A.]; Building Construction, Mr. W. J. Wilsdon [*Licentiate*] and Mr. F. C. Webster [A.]. Full particulars may be obtained from the Principal, Mr. J. Stuart Ker, B.Sc., Vincent Square, S.W.

London University Extension Lectures.

Lord Curzon has joined the Committee for the London University Extension lectures on architecture this session. They include two courses, one on "Ancient Architecture" and another on "Renaissance Architecture," by Mr. Banister Fletcher [F.]. The lectures, illustrated by lantern slides and models, will be delivered in the British Museum and the Victoria and Albert Museum respectively. The first will be on Thursdays at 4.30, beginning on October 2, and the second on Mondays at 5, beginning on October 6. Particulars may be obtained from the Hon. Secretary, 10 Woburn Square, W.C.

The Chadwick Public Lectures.]

The Chadwick Trustees have arranged for a course of three public lectures dealing with Practical Problems of Housing Reform, to be delivered in Glasgow by Mr. W. E. Riley [F.], Superintending Architect to the London County Council, on the 1st, 2nd, and 3rd October. The subjects of the lectures are (1) Unhealthy Areas; (2) Unhealthy Houses, Improvement Schemes, and Lodging Houses; (3) Cottage Estates. Under the same auspices, on 23rd and 30th October and 6th November, Dr. Leonard Hill will lecture at Bristol on the Physiological Principles of Heating and Ventilation; and on the 4th, 11th, and 18th November Sir George Newman, M.D., Chief Medical Officer of the Board of Education, will lecture at the University of London, South Kensington, on the Place of the Open-Air School in Preventive Medicine. Information concerning other Chadwick Lectures for 1913-14 may be obtained of Mrs. Aubrey Richardson, at the offices of the Chadwick Trust, 8 Dartmouth Street, Westminster. Inquiries regarding the Glasgow Course should be addressed to Dr. A. K. Chalmers, Medical Officer of Health, Sanitary Chambers, Glasgow.

Victoria and Albert Museum.

An official Guide has been provisionally appointed by the Board of Education for six months from the 1st October next, to conduct parties of visitors round the Victoria and Albert Museum. No charge will be made for his services, and no gratuities are to be offered. The Guide will start from the Entrance Hall at 12 noon and 3 p.m. daily, except on Sundays. Each tour will last about an hour, and various departments of the Museum will be visited. Details of the proposed tours will be announced later. The Guide's services will also be obtainable without charge by

special parties between the hours of 10 and 12 a.m. and from 4 to 6 p.m. on any week day, but four days' notice at least should be given. Application for such special guidance should be made either verbally to the doorkeeper at the main entrance or by letter addressed to the Director and Secretary, but applications in respect of parties of less than six or more than twenty should be made only by letter. It should be stated whether the party desires to make a general tour of the Museum or to visit some particular department. All applications for special guidance will be considered in order of priority of receipt. In accordance with the General Museum Regulations all parties will, as a rule, be limited to twenty in number. Children below the age of twelve years cannot be included in them, unless they come in classes in charge of their teachers.

East Africa Architectural Association.

The architects of British East Africa and Uganda have formed themselves into an Association with the above title. The officers for the first session are: President, Mr. R. M. Geater; Vice-President, Mr. W. M. Robertson; Hon. Sec. and Hon. Treasurer, Mr. Harold E. Henderson, Licentiate R.I.B.A., Box 80, Nairobi, B.E.A. (late Hon. Secretary of the York and Yorkshire Architectural Society); Council, Messrs. Le Roux, Tate-Smith, Gow, and Hurler Bath. The Legislative Council of British East Africa is to be asked to sanction a measure providing for the registration of architects in the country it administers, and application is to be made for alliance with the Royal Institute of British Architects.

Reinforced Concrete and its Uses.

The first of a series of illustrated articles dealing with the use of Concrete in Cotton Mills, from the pen of Mr. Harold Holt [J.], appears in the September issue of *Concrete and Constructional Engineering*. The author's aim is to indicate the direction in which reinforced concrete has been already adapted in cotton-mill buildings, to show why it has apparently not been further used, and to offer suggestions for its more extensive employment particularly in cotton-manufacturing buildings. Other articles in this issue include the second instalment of Mr. Kempton Dyson's criticism of the L.C.C. Reinforced Concrete Regulations; "Waterproofing Qualities of Oil-mixed Concrete," by L. W. Page, Director of the Office of Public Roads, Washington, U.S.A.; "Reinforced Concrete Glass Warehouse, St. Helen's"; "Concrete and Reinforced Concrete at the Leipzig Exhibition," by Dipl.-Ing. Philipp Rauer; "Concrete Cottages in South Wales"; "Cement and Concrete at the Royal Agricultural Show, Bristol," various new constructions in concrete, &c.

OBITUARY.

Sir Frederick Eaton, who had been Secretary of the Royal Academy for the past forty years, died on the 11th inst. at the age of seventy-seven. Sir Frederick was the editor of Murray's Handbooks on Egypt and South Italy, 1870-1880, and of an English translation of Thausing's Life of Albert Dürer. He was joint author with Mr. J. E. Hodgson, R.A., of "The Royal Academy and its Members, 1768-1830." At the funeral service, which took place at St. Mary Abbots, Kensington, the Institute was represented by the Secretary, Mr. Ian MacAlister, and a wreath was sent on behalf of the general body of members. Among Academicians present were the past Presidents of the Institute, Sir Aston Webb, R.A., and Sir Ernest George, A.R.A.

CORRESPONDENCE.

The Preservation of Ancient Monuments.

*The Society for the Protection of Ancient Buildings,
20 Buckingham Street, Adelphi, W.C.*

To the Editor, JOURNAL R.I.B.A.,—

SIR,—The Committee of this Society has had its notice called to the essay by Mr. Wm. J. Davies on the above-named subject which appeared in your issues of 14th and 28th June. The essay, which shows a most exhaustive study of the question of the preservation of ancient buildings, is a fine statement of the case and a most useful addition to the literature of the subject.

There is one point on which the essayist does not make himself quite clear. In paragraph 4 (v.) it seems to be suggested that forgeries of architecture are pardonable, if not admirable, as they can be detected. My Committee cannot think that this is what the author believes. Such a belief would lead one to accept a copy as a work of art, while at best it can only be very artful work.

Perhaps Mr. Davies intended to correct this misleading paragraph when he wrote the one numbered 6 (ix) in which this sentence occurs: "Any alterations or additions, therefore, necessitated by changing conditions, while harmonious with the main fabric, should bear the impress of the age and of the individuality of the artist." These words express clearly this Society's view of the right treatment of an old building where modern additions are essential, though it is the impress of the age, rather than the individuality of the artist, that is wanted. In fact, the individuality may very well be dispensed with, if such a thing is possible.—I am, sir, your obedient servant,

A. R. POWYS, *Secretary*.

Mr. FRANK T. VERITY [F.], who holds the appointment of Architect to the Lord Chamberlain's Department, has received the honour of election as Corresponding Member of the Société Archéologique de France.

